

Remarks

Claims 1-12 and 15-27 are pending in this application. Claims 1-10 and 23-27 have been allowed. Claims 11, 12, 16 and 17 have been rejected and claim 15 is objected to. Claim 11 has been amended. Support for the claim amendments can be found throughout the application, including the claims as originally filed. Importantly, no new matter has been added to the claims. Further, the amendments to the claims should not be construed to be an acquiescence to any of the rejections. The amendments to the claims are being made solely to expedite the prosecution of the above-identified application. Applicant expressly reserves the option to prosecute further the same or similar claims in the instant application or subsequent patent applications entitled to the priority date of the instant application. 35 USC § 120.

Response to Rejections under 35 U.S.C. 102(b)

Claims 11 and 12 have been rejected as being anticipated by Douglas *et al.* (*J. Am. Chem. Soc.* **1991**, *113*(13), 5095-5097). The Applicants respectfully disagree.

Douglas *et al.* is drawn to polymer-supported synthesis of oligosaccharides wherein polyethyleneglycol-succinate (PEG-Su) serves as the polymer support and is tethered to a saccharide at either C2 or C3. Claim 11 has been amended to encompass only the method of oligosaccharide synthesis wherein the second mono-, di- or tri-saccharide is covalently linked to a solid support at an anomeric position. Importantly, Douglas *et al.* do not teach this attachment; they explain that their system is “unpractical” when the link to the solid support is made at the anomeric position (see p. 5096, reference 19). Further, in a subsequent publication by the same authors (*Tetrahedron Lett.* **1992**, *33*, 6795), they explain more fully that their system does not work when they link the solid support directly to the anomeric carbon, reporting that attempted glycosylation of anomERICALLY-tethered saccharides under their reaction conditions led only to glycosyl exchange, instead of the desired glycosylation products, oligosaccharides. Support can be found throughout the Specification, especially in the Exemplification, for the amendment to claim 11, narrowing the claim to oligosaccharide synthesis wherein the second mono-, di- or tri-saccharide is covalently linked to a solid support at an anomeric position. For example, Figure

17 presents the method of oligosaccharide synthesis wherein the second mono-, di- or tri-saccharide is covalently linked to a solid support at an anomeric position.

The method described by Douglas *et al.* differs in an additional way from the method of amended claim 11. In the claimed method, the polymer support is a solid support. In contrast, the polymer support used in Douglas *et al.* is known to be soluble in organic solvents and has a relatively low melting point (less than 75 °C).

In light of the amendment to claim 11, and thus dependant claim 12, the Applicant requests withdrawal of the rejection of claims 11 and 12.

Response to Rejections under 35 U.S.C. 103(a)

Claims 11, 12, 16 and 17 are rejected as being unpatentable over Douglas *et al.* (*J. Am. Chem. Soc.* **1991**, *113*(13), 5095-5097) in combination with Kovensky *et al.* (*Bioorg. Med. Chem.* **1999**, *7*, 1567-1580). Specifically, the Examiner contends that Douglas *et al.* teaches “a method wherein a monosaccharide comprising a bromide activated anomeric carbon is coupled to a second monosaccharide linked to a polymer support and having a hydroxyl group giving structure IIIB that has the glycosidic link between the said anomeric carbon of the first monosaccharide and the hydroxyl of the second monosaccharide.” In addition, the Examiner contends that the Kovensky reference discloses “the sulfation and hydrogenolysis reactions in the solution phase.” The Applicants respectfully disagree.

As discussed above, in order to expedite prosecution, the Applicants have amended claim 11 to include the limitation that the second mono-, di- or tri-saccharide is covalently linked to a solid support at an anomeric position. Importantly, the Douglas *et al.* reference pertains only to the synthesis of oligosaccharides not linked to a solid support through an anomeric carbon. The Kovensky reference teaches certain sulfation and hydrogenolysis steps. Therefore, the Douglas *et al.* reference alone or in combination with the Kovensky publication does not form the basis of a *prima facie* showing of obviousness because the Douglas *et al.* reference alone or in combination with the Kovensky reference does not teach all the limitations of amended claim 11. In support of their analysis, the Applicants respectfully remind the Examiner that in order to form the basis of a proper rejection under 35 USC 103(a), the reference or references must teach

all of the limitations of the claim. *See In re Zurko*, 111 F.3d 887, 888-889, 42 USPQ 2d 1476, 1478 (Fed. Cir. 1997). Finally, the Applicants contend that claims 12, 16, and 17 are nonobvious over Douglas and Kovensky because the claims are dependent on claim 11 which requires a specific solid-support to saccharide linkage as discussed above.

Accordingly, the Applicants respectfully request the withdrawal of the rejection under 35 USC 103(a) based on the Douglas and Kovensky references.

Conclusion

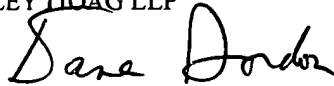
In view of the above amendments and remarks, it is believed that the pending claims are in condition for allowance. If a telephone conversation with Applicants' Attorney would expedite prosecution of the above-identified application, the Examiner is urged to contact the undersigned at (617) 832-1000.

Patent Group
FOLEY HOAG LLP
155 Seaport Boulevard
Boston, MA 02210

(617) 832-1000
(617) 832-7000 (FAX)

Date: 7/1/04

Respectfully submitted,
FOLEY HOAG LLP



Dana M. Gordon, Ph.D.
Registration No.: 44,719
Attorney for Applicants